

Remarks

In the Office Action, claim 50 was rejected under 35 U.S.C. § 112, second paragraph. Further, claims 1-4, 11, 31, 33-35, 37-39, and 41-42 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent 3,164,304 to Jager et al. ("Jager"). In addition, claims 1-4, 11-15, 19-21, 25-31, 33-35, 37-39, and 41-43 were rejected under § 102(b) as being anticipated by U.S. Patent 3,334,354 to Mutschler ("Mutschler"). Additionally, claims 1, 12, 14, 37-38, 40-44, 47-49, 51-53, and 57-58 were rejected under § 102(b) as being anticipated by U.S. Patent 5,186,982 to Blette et al. ("Blette"). Claims 5-7 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Mutschler in view of U.S. Patent 5,758,650 to Miller et al. ("Miller"). Further, claims 5-7 were rejected under § 103(a) as being unpatentable over Jager in view of Miller.

As discussed below, claims 1, 12, 20, 31, 37, 43-44, and 51 have been amended.

Claims 8-9, 16-17, 22-23, 32, 36, 45-46, 50, and 54-56 were objected to as being dependent upon a rejected base claim, but the Examiner noted in the Office Action that the claims would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicant thanks the Examiner for noting this allowability and has amended claims 8, 16, 22, 32, 36, 45, 50, and 54-56 herein to conform with the Examiner's request. It is noted that claims 8-9, 16-17, 22-23, 32, 36, 45-46, 50, and 54-56 have not been narrowed, because the subject matter was present in the claims as filed.

I. § 112, ¶ 2 Rejection

Claim 50 was rejected under 35 U.S.C. § 112, second paragraph, due to insufficient antecedent basis for the "transfer pin" limitation. Claim 50 has been amended to address this rejection, along with the objection as set forth above. It is respectfully submitted that claim 50 is now in condition for allowance.

II. § 102(b) Rejections

Claims 1-4, 11, 31, 33-35, 37-39, and 41-42 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent 3,164,304 to Jager et al. ("Jager"). Further, claims 1-4, 11-15, 19-21, 25-31, 33-35, 37-39, and 41-43 were rejected under § 102(b) as being anticipated by U.S. Patent 3,334,354 to Mutschler ("Mutschler"). Additionally, claims 1, 12, 14, 37-38, 40-44, 47-49, 51-53, and 57-58 were rejected under § 102(b) as being anticipated by U.S. Patent 5,186,982 to Blette et al. ("Blette").

A. Independent Claim 1 Is Not Anticipated by Jager

Amended claim 1 is directed to a liquid dispensation device. The device has a pin element and a drive element wherein the drive element is not mechanically coupled with the pin element.

In contrast, Jager discloses a liquid dispensing apparatus having a plunger that is “*attached* to [the] actuator 32 by means of a suitable connector 34.” See Jager, col. 2, ll. 18-19. That is, Jager teaches a plunger that is mechanically coupled to the actuator. Jager fails to disclose a pin element and a drive element wherein the drive element is not mechanically coupled to the pin element.

Thus, reconsideration and withdrawal of the rejection of claim 1 is respectfully requested. Accordingly, it is respectfully submitted that claim 1 is in condition for allowance.

B. Claims Depending from Claim 1 Are Patentable

Because claims 2-7 and 11 depend directly or indirectly from claim 1 and incorporate all the limitations of claim 1, the above argument obviates the basis for this ground of rejection. Thus, claims 2-7 and 11 are not anticipated by Jager. Reconsideration and withdrawal of the rejection is respectfully requested.

C. Independent Claim 31 Is Not Anticipated by Jager

Amended claim 31 is directed to a dispensation device. The device has a transfer pin, a driven element in contact with the transfer pin, and a drive element magnetically coupled with the driven element, wherein the drive element is not mechanically coupled with the driven element.

Jager does not disclose the claimed invention. As discussed above, Jager discloses a liquid dispensing apparatus having a plunger that is “*attached* to [the] actuator 32 by means of a suitable connector 34.” See Jager, col. 2, ll. 18-19. Further, the connector 34 is *attached* to the armature 36. Id. at col. 2, ll. 23-26. That is, Jager teaches an actuator that is mechanically coupled to the armature. Jager fails to disclose a transfer pin, a driven element in contact with the transfer pin, and a drive element magnetically coupled with the driven element, wherein the drive element is not mechanically coupled with the driven element.

Thus, reconsideration and withdrawal of the rejection of claim 31 is respectfully requested. Accordingly, it is respectfully submitted that claim 31 is in condition for allowance.

D. Claims Depending from Claim 31 Are Patentable

Because claims 33-35 depend directly or indirectly from claim 31 and incorporate all the limitations of claim 31, the above argument obviates the basis for this ground of rejection. Thus, claims 33-35 are not anticipated by Jager. Reconsideration and withdrawal of the rejection is respectfully requested.

E. Independent Claim 37 Is Not Anticipated by Jager

Amended claim 37 is directed to a method of dispensing liquid. The method includes moving a transfer pin from a retracted position within a chamber to an extended position, wherein the transfer pin is not mechanically coupled to a drive element.

Jager does not disclose the claimed invention. As discussed above, Jager discloses a liquid dispensing apparatus having a plunger that is “*attached* to [the] actuator 32 by means of a suitable connector 34.” See Jager, col. 2, ll. 18-19. That is, Jager teaches a plunger that is mechanically coupled to an actuator. Jager fails to disclose moving a transfer pin from a retracted position within a chamber to an extended position, wherein the transfer pin is not mechanically coupled to a drive element.

Thus, reconsideration and withdrawal of the rejection of claim 37 is respectfully requested. Accordingly, it is respectfully submitted that claim 37 is in condition for allowance.

F. Claims Depending from Claim 37 Are Patentable

Because claims 38-42 depend directly or indirectly from claim 37 and incorporate all the limitations of claim 37, the above argument obviates the basis for this ground of rejection. Thus, claims 38-42 are not anticipated by Jager. Reconsideration and withdrawal of the rejection is respectfully requested.

G. Independent Claim 1 Is Not Anticipated by Mutschler

As discussed above, amended claim 1 is directed to a liquid dispensation device. The device has a pin element and a drive element wherein the drive element is not mechanically coupled with the pin element.

Mutschler does not disclose the claimed invention. Mutschler discloses a liquid ink recording system having a reciprocating pin that is “*supported* by elastic spiders 51 and 52” that are connected to an electromechanical transducer. See Mutschler, col. 7, ll. 54-55, and Fig. 7. That is, Mutschler teaches a pin that is mechanically coupled to the transducer. Mutschler fails

to disclose a pin element and a drive element wherein the drive element is not mechanically coupled to the pin element.

Thus, reconsideration and withdrawal of the rejection of claim 1 is respectfully requested. Accordingly, it is respectfully submitted that claim 1 is in condition for allowance.

H. Claims Depending from Claim 1 Are Patentable

Because claims 2-7 and 11 depend directly or indirectly from claim 1 and incorporate all the limitations of claim 1, the above argument obviates the basis for this ground of rejection. Thus, claims 2-7 and 11 are not anticipated by Mutschler. Reconsideration and withdrawal of the rejection is respectfully requested.

I. Independent Claim 12 Is Not Anticipated by Mutschler

Amended claim 12 is directed to a liquid dispensation device. The device has a contact element and a drive element wherein the drive element is not mechanically coupled with the contact element.

Mutschler does not disclose the claimed invention. As discussed above, Mutschler discloses a liquid ink recording system having a reciprocating pin that is “*supported* by elastic spiders 51 and 52” that are connected to an electromechanical transducer. See Mutschler, col. 7, ll. 54-55, and Fig. 7. That is, Mutschler teaches a pin that is mechanically coupled to the transducer. Mutschler fails to disclose a contact element and a drive element wherein the drive element is not mechanically coupled to the contact element.

Thus, reconsideration and withdrawal of the rejection of claim 12 is respectfully requested. Accordingly, it is respectfully submitted that claim 12 is in condition for allowance.

J. Claims Depending from Claim 12 Are Patentable

Because claims 13-15 and 19 depend directly or indirectly from claim 12 and incorporate all the limitations of claim 12, the above argument obviates the basis for this ground of rejection. Thus, claims 13-15 and 19 are not anticipated by Mutschler. Reconsideration and withdrawal of the rejection is respectfully requested.

K. Independent Claim 20 Is Not Anticipated by Mutschler

Amended claim 20 is directed to a liquid dispensation device. The device has a transfer pin and a drive element wherein the drive element is not mechanically coupled with the transfer pin.

In contrast, Mutschler, as discussed above, discloses a liquid ink recording system having a reciprocating pin that is “*supported* by elastic spiders 51 and 52” that are connected to an electromechanical transducer. See Mutschler, col. 7, ll. 54-55, and Fig. 7. That is, Mutschler teaches a pin that is mechanically coupled to the transducer. Mutschler fails to disclose a contact element and a drive element wherein the drive element is not mechanically coupled to the contact element.

Thus, reconsideration and withdrawal of the rejection of claim 20 is respectfully requested. Accordingly, it is respectfully submitted that claim 20 is in condition for allowance.

L. Claims Depending from Claim 20 Are Patentable

Because claims 21 and 25-30 depend directly or indirectly from claim 20 and incorporate all the limitations of claim 20, the above argument obviates the basis for this ground of rejection. Thus, claims 21 and 25-30 are not anticipated by Mutschler. Reconsideration and withdrawal of the rejection is respectfully requested.

M. Independent Claim 31 Is Not Anticipated by Mutschler

Amended claim 31 is directed to a dispensation device. The device has a transfer pin, a driven element in contact with the transfer pin, and a drive element magnetically coupled with the driven element, wherein the drive element is not mechanically coupled with the driven element.

Mutschler does not disclose the claimed invention. It is asserted in the Office Action that the elastic spiders 51 and 52 disclosed in Mutschler are the driven element. Mutschler teaches that the elastic spiders 51 and 52 are connected to the electromechanical transducer. See Mutschler, col. 7, ll. 54-55, and Fig. 7. That is, Mutschler teaches a drive element that is mechanically coupled to the driven element. Mutschler fails to disclose a transfer pin, a driven element in contact with the transfer pin, and a drive element magnetically coupled with the driven element, wherein the drive element is not mechanically coupled with the driven element.

Thus, reconsideration and withdrawal of the rejection of claim 31 is respectfully requested. Accordingly, it is respectfully submitted that claim 31 is in condition for allowance.

N. Claims Depending from Claim 31 Are Patentable

Because claims 33-35 depend directly or indirectly from claim 31 and incorporate all the limitations of claim 31, the above argument obviates the basis for this ground of rejection. Thus,

claims 33-35 are not anticipated by Mutschler. Reconsideration and withdrawal of the rejection is respectfully requested.

O. Independent Claim 37 Is Not Anticipated by Mutschler

Amended claim 37 is directed to a method of dispensing liquid. The method includes moving a transfer pin from a retracted position within the chamber to an extended position, wherein the transfer pin is not mechanically coupled to a drive element.

Mutschler does not disclose the claimed invention. As discussed above, Mutschler discloses a liquid ink recording system having a reciprocating pin that is “*supported* by elastic spiders 51 and 52” that are connected to an electromechanical transducer. See Mutschler, col. 7, ll. 54-55, and Fig. 7. That is, Mutschler teaches a pin that is mechanically coupled to the transducer. Mutschler fails to disclose moving a transfer pin from a retracted position within the chamber to an extended position, wherein the transfer pin is not mechanically coupled to a drive element.

Thus, reconsideration and withdrawal of the rejection of claim 37 is respectfully requested. Accordingly, it is respectfully submitted that claim 37 is in condition for allowance.

P. Claims Depending from Claim 37 Are Patentable

Because claims 38-42 depend directly or indirectly from claim 37 and incorporate all the limitations of claim 37, the above argument obviates the basis for this ground of rejection. Thus, claims 38-42 are not anticipated by Mutschler. Reconsideration and withdrawal of the rejection is respectfully requested.

Q. Independent Claim 43 Is Not Anticipated by Mutschler

Amended claim 43 is directed to a method of dispensing liquid. The method includes magnetically moving a transfer pin through a chamber and into contact with a substrate, wherein the transfer pin is not mechanically coupled to a drive element.

Mutschler does not disclose the claimed invention. As discussed above, Mutschler discloses a liquid ink recording system having a reciprocating pin that is “*supported* by elastic spiders 51 and 52” that are connected to an electromechanical transducer. See Mutschler, col. 7, ll. 54-55, and Fig. 7. That is, Mutschler teaches a pin that is mechanically coupled to the transducer. Mutschler fails to disclose magnetically moving a transfer pin through a chamber and into contact with a substrate, wherein the transfer pin is not mechanically coupled to a drive element.

Thus, reconsideration and withdrawal of the rejection of claim 43 is respectfully requested. Accordingly, it is respectfully submitted that claim 43 is in condition for allowance.

R. Independent Claim 1 Is Not Anticipated by Blette

As discussed above, amended claim 1 is directed to a liquid dispensation device. The device has a pin element and a drive element wherein the drive element is not mechanically coupled with the pin element.

Blette does not disclose the claimed invention. Blette discloses an assembly for dispensing liquid materials having a pin that "is affixed to a forward end of [a] piston." See Blette, col. 2, ll. 60-61. That is, Blette teaches a pin that is mechanically coupled to the piston. Blette fails to disclose a pin element and a drive element wherein the drive element is not mechanically coupled to the pin element.

Thus, reconsideration and withdrawal of the rejection of claim 1 is respectfully requested. Accordingly, it is respectfully submitted that claim 1 is in condition for allowance.

S. Claims Depending from Claim 1 Are Patentable

Because claims 2-7 and 11 depend directly or indirectly from claim 1 and incorporate all the limitations of claim 1, the above argument obviates the basis for this ground of rejection. Thus, claims 2-7 and 11 are not anticipated by Blette. Reconsideration and withdrawal of the rejection is respectfully requested.

T. Independent Claim 12 Is Not Anticipated by Blette

As discussed above, amended claim 12 is directed to a liquid dispensation device. The device has a contact element and a drive element wherein the drive element is not mechanically coupled with the contact element.

Blette does not disclose the claimed invention. Blette discloses an assembly for dispensing liquid materials having a pin that "is affixed to a forward end of [a] piston." See Blette, col. 2, ll. 60-61. That is, Blette teaches a pin that is mechanically coupled to the piston. Blette fails to disclose a contact element and a drive element wherein the drive element is not mechanically coupled with the contact element.

Thus, reconsideration and withdrawal of the rejection of claim 12 is respectfully requested. Accordingly, it is respectfully submitted that claim 12 is in condition for allowance.

U. Claims Depending from Claim 12 Are Patentable

Because claims 13-15 and 19 depend directly or indirectly from claim 12 and incorporate all the limitations of claim 12, the above argument obviates the basis for this ground of rejection. Thus, claims 13-15 and 19 are not anticipated by Blette. Reconsideration and withdrawal of the rejection is respectfully requested.

V. Independent Claim 37 Is Not Anticipated by Blette

As discussed above, amended claim 37 is directed to a method of dispensing liquid. The method includes moving a transfer pin from a retracted position within a chamber to an extended position, wherein the transfer pin is not mechanically coupled to a drive element.

Blette does not disclose the claimed invention. Blette discloses an assembly for dispensing liquid materials having a pin that "is affixed to a forward end of [a] piston." See Blette, col. 2, ll. 60-61. That is, Blette teaches a pin that is mechanically coupled to the piston. Blette fails to disclose moving a transfer pin from a retracted position within a chamber to an extended position, wherein the transfer pin is not mechanically coupled to a drive element.

Thus, reconsideration and withdrawal of the rejection of claim 37 is respectfully requested. Accordingly, it is respectfully submitted that claim 37 is in condition for allowance.

W. Claims Depending from Claim 37 Are Patentable

Because claims 38-42 depend directly or indirectly from claim 37 and incorporate all the limitations of claim 37, the above argument obviates the basis for this ground of rejection. Thus, claims 38-42 are not anticipated by Blette. Reconsideration and withdrawal of the rejection is respectfully requested.

X. Independent Claim 43 Is Not Anticipated by Blette

Amended claim 43 is directed to a method of dispensing liquid. The method includes magnetically moving a transfer pin through a chamber and into contact with a substrate, wherein the transfer pin is not mechanically coupled to a drive element.

Blette does not disclose the claimed invention. Blette discloses an assembly for dispensing liquid materials having a pin that "is affixed to a forward end of [a] piston." See Blette, col. 2, ll. 60-61. That is, Blette teaches a pin that is mechanically coupled to the piston. Blette fails to disclose magnetically moving a transfer pin through a chamber and into contact with a substrate, wherein the transfer pin is not mechanically coupled to a drive element.

Thus, reconsideration and withdrawal of the rejection of claim 43 is respectfully requested. Accordingly, it is respectfully submitted that claim 43 is in condition for allowance.

Y. Independent Claim 44 Is Not Anticipated by Blette

Amended claim 44 is directed to a liquid dispensation device. The device has a contact element and a drive element operatively coupled with the contact element, wherein the drive element is not mechanically coupled with the contact element.

Blette does not disclose the claimed invention. Blette discloses an assembly for dispensing liquid materials having a pin that "is affixed to a forward end of [a] piston." See Blette, col. 2, ll. 60-61. That is, Blette teaches a pin that is mechanically coupled to the piston. Blette fails to disclose a contact element and a drive element operatively coupled with the contact element, wherein the drive element is not mechanically coupled with the contact element.

Thus, reconsideration and withdrawal of the rejection of claim 44 is respectfully requested. Accordingly, it is respectfully submitted that claim 44 is in condition for allowance.

Z. Claims Depending from Claim 44 Are Patentable

Because claims 47-49 depend directly or indirectly from claim 44 and incorporate all the limitations of claim 44, the above argument obviates the basis for this ground of rejection. Thus, claims 47-49 are not anticipated by Blette. Reconsideration and withdrawal of the rejection is respectfully requested.

AA. Independent Claim 51 Is Not Anticipated by Blette

Amended claim 51 is directed to a method of dispensing liquid. The method includes selectively moving a transfer pin by fluid pressure toward a substrate through the chamber, wherein the transfer pin is not mechanically coupled to any drive element.

Blette does not disclose the claimed invention. Blette discloses an assembly for dispensing liquid materials having a pin that "is affixed to a forward end of [a] piston." See Blette, col. 2, ll. 60-61. That is, Blette teaches a pin that is mechanically coupled to the piston. Blette fails to disclose selectively moving a transfer pin by fluid pressure toward a substrate through the chamber, wherein the transfer pin is not mechanically coupled to any drive element.

Thus, reconsideration and withdrawal of the rejection of claim 51 is respectfully requested. Accordingly, it is respectfully submitted that claim 51 is in condition for allowance.

BB. Claims Depending from Claim 51 Are Patentable

Because claims 52-53 and 57-58 depend directly or indirectly from claim 51 and incorporate all the limitations of claim 51, the above argument obviates the basis for this ground of rejection. Thus, claims 52-53 and 57-58 are not anticipated by Blette. Reconsideration and withdrawal of the rejection is respectfully requested.

III. § 103(a) Rejections

Claims 5-7 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Mutschler in view of U.S. Patent 5,758,650 to Miller et al. ("Miller"). Further, claims 5-7 were rejected under § 103(a) as being unpatentable over Jager in view of Miller.

A. Independent Claim 1 Is Not Made Obvious by Mutschler in View of Miller

As discussed above, amended claim 1 is directed to a liquid dispensation device. The device has a pin element and a drive element wherein the drive element is not mechanically coupled with the pin element.

As discussed above, Mutschler does not teach or suggest the invention of claim 1. Mutschler discloses a liquid ink recording system having a reciprocating pin that is "*supported by elastic spiders 51 and 52*" that are connected to an electromechanical transducer. See Mutschler, col. 7, ll. 54-55, and Fig. 7. That is, Mutschler teaches a pin that is mechanically coupled to the transducer. Mutschler fails to teach or suggest a pin element and a drive element wherein the drive element is not mechanically coupled to the pin element.

Miller fails to remedy the deficiencies of Mutschler. Miller is relied upon merely as teaching the use of a rare earth magnet. See Office Action, p. 5, ll. 2-3. Miller fails to teach or suggest a pin element and a drive element wherein the drive element is not mechanically coupled with the pin element.

Thus, neither Mutschler nor Miller, alone or in combination, teach or suggest a pin element and a drive element wherein the drive element is not mechanically coupled with the pin element. Accordingly, claim 1 stands in condition for allowance.

B. Claims Depending from Claim 1 Are Patentable

Because claims 2-7 and 11 depend directly or indirectly from claim 1 and incorporate all the limitations of claim 1, the above argument obviates the basis for this ground of rejection. Thus, claims 2-7 and 11, including claims 5-7, are not obvious over Mutschler in view of Miller. Reconsideration and withdrawal of the rejection is respectfully requested.

C. Independent Claim 1 Is Not Made Obvious by Jager in View of Miller

As discussed above, amended claim 1 is directed to a liquid dispensation device. The device has a pin element and a drive element wherein the drive element is not mechanically coupled with the pin element.

Jager fails to teach or suggest the invention of claim 1. Jager discloses a liquid dispensing apparatus having a plunger that is “*attached* to [the] actuator 32 by means of a suitable connector 34.” See Jager, col. 2, ll. 18-19. That is, Jager teaches a plunger that is mechanically coupled to the actuator. Jager fails to teach or suggest a pin element and a drive element wherein the drive element is not mechanically coupled to the pin element.

Miller fails to remedy the deficiencies of Jager. Miller is relied upon merely as teaching the use of a rare earth magnet. See Office Action, p. 5, ll. 11-12. Miller fails to teach or suggest a pin element and a drive element wherein the drive element is not mechanically coupled with the pin element.

Thus, neither Jager nor Miller, alone or in combination, teach or suggest a pin element and a drive element wherein the drive element is not mechanically coupled with the pin element. Accordingly, claim 1 stands in condition for allowance.

D. Claims Depending from Claim 1 Are Patentable

Because claims 2-7 and 11 depend directly or indirectly from claim 1 and incorporate all the limitations of claim 1, the above argument obviates the basis for this ground of rejection. Thus, claims 2-7 and 11, including claims 5-7, are not obvious over Jager in view of Miller. Reconsideration and withdrawal of the rejection is respectfully requested.

Conclusion

Applicant has obviated by amendment the § 112 rejection of claim 50. Further, Applicant has obviated by amendment and argument the anticipation rejections of claims 1-4, 11-15, 19-21, 25-31, 33-35, 37-44, 47-49, 51-53, and 57-58. In addition, Applicant has obviated by amendment and argument the obviousness rejections of claims 5-7. Finally, Applicant has obviated by amendment the objections to claims 8-9, 16-17, 22-23, 32, 36, 45-46, 50, and 54-56.

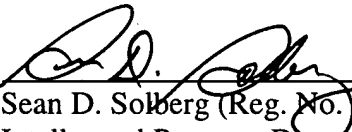
Consequently, claims 1-9, 11-17, 19-23, and 25-58 are allowable. Reconsideration and a Notice of Allowance for all pending claims is respectfully requested.

This response is being submitted on or before November 25, 2003, with a Petition for One Month Extension of Time, and the required fees, making this a timely response. It is believed that no additional fees are due in connection with this filing. However, the Commissioner is authorized to charge any additional fees, including extension fees or other relief which may be required, or credit any overpayment to Deposit Account No. 04-1420

Respectfully submitted,

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